

Safest path in the grid

There are three main takeaways/steps to solve this problem.

1. Using multi-source BFS.

We can update the input matrix and calculate the distance to nearest neighbors by BFS.

2. Once we have the data we can define left and right variables for Binary Search.

left will start from zero & right will be $n \rightarrow$ size of matrix.

Here, we calculate the mid & use that in our DFS/BFS in next step.

This mid here denotes the manhattan distance from any node.

If there are multiple such values we of course choose the maximum.

3. In final step we are using BFS/DFS to check if it is possible to have a path where the distance (assume manhattan) will be the mid calculated in the previous step.

Note - not specific to algo but I can create helper method to check bounds.